

Notice of Allowability

Application No.

10/689,183

Examiner

Shawn Riley

Applicant(s)

LATHAM ET AL.

Art Unit

2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to oct 2003 filing.
2. ☒ The allowed claim(s) is/are 1-21.
3. ☒ The drawings filed on 01 October 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date oct 2003
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Shawn Riley
Primary Examiner
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DETAILED ACTION

1. The following is an examiner's statement of reasons for allowance: No prior art uncovered anticipates or renders obvious applicant(s) claimed electrical system for regulating electrical current including a model voltage multiplying finite output resistance circuit including an input connected to the current pass regulator element and an output supplying a model current I_{model} , a current sense circuit connected to force an output voltage of the model voltage multiplying finite output resistance circuit to be equal to an output voltage of the primary voltage multiplying finite output resistance circuit, a constant current source for sinking a reference current I_{ref} , and a control circuit responsive to the current sense circuit and the constant current source and connected to control the current pass regulator element to force the model current I_{model} to be equal to the reference current I_{ref} , such that current passing through the primary voltage multiplying finite output resistance circuit is regulated at a level established by the user settable current determining element irrespective of input voltage variation of the power source.
2. Further, no prior art uncovered anticipates or renders obvious applicant(s) claimed electrical system for regulating electrical current including a model charge pump having an input connected to the current pass regulator element and a model output supplying a model current I_{model} , and including a current sense circuit, and a constant current source for sinking a reference current I_{ref} , wherein the current sense circuit is connected and functions to compare voltage levels at the outputs of the primary and model charge pumps and to force voltage level at the output of the model charge pump to be equal to a voltage level at the output of the primary charge pump, and a control circuit having a current sourcing/sinking input connected to a node

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between the current sense circuit and the constant current source and having a control output connected to control the current pass regulator element to force the current I_{model} to be equal to the reference current I_{ref} .

Further, no prior art uncovered anticipates or renders obvious applicant(s) claimed method for regulating electrical current including passing the model current through a current sense circuit, and into a constant current source for sinking a reference current I_{ref} , controlling the current sense circuit to force a voltage level at the output of the model voltage multiplying finite output resistance circuit to be equal to a voltage level at the output of the primary voltage multiplying finite output resistance circuit, and, controlling the current pass regulator element to force the current I_{model} to be equal to the reference current I_{ref} , such that current passing through the primary voltage multiplying finite output resistance circuit is regulated at a level established by the user settable current determining element irrespective of input voltage variation of the power source.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Allowable Subject Matter

1. Claims 1-21 are allowable over the prior art of record.

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Conclusion

Any inquiry from other than the applicant/attorney of record concerning this communication or earlier communications from the Examiner should be directed to the Patent Electronic Business Center (EBC) at 1.866.217.9197. Any inquiry from a member of the press concerning this communication or earlier communications from the Examiner or the application should be directed to the Office of Public Affairs at 703.305.8341. Any inquiry from the applicant or an attorney of record concerning this communication or earlier communications from the Examiner should be directed to Examiner Riley whose telephone number is 571.272.2083. The Examiner can normally be reached Monday through Thursday from 7:30-6:00 p.m. Eastern Standard Time. The Examiner's Supervisor is Mike Sherry who can be reached at 571.272.2084. Any inquiry about a case's location, retrieval of a case, or receipt of an amendment into a case or information regarding sent correspondence to a case **should be directed to 2800's Customer Service Center** at 571.272.2815. Any papers to be sent by fax MUST BE sent to fax number 703.872.9306. Any inquiry of a general nature of this application should be **directed to the Group receptionist** whose telephone number is 571.272.2800. Status information of cases may be found at <http://pair-direct.uspto.gov> wherein unpublished application information is found through private PAIR and published application information is found through public PAIR. Further help on using the PAIR system is available at 1.866.217.9197 (Electronic Business Center).

November 04



Shawn Riley
Primary Examiner